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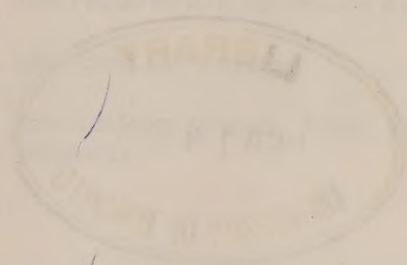
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PRODUCTS AND SERVICES
OF THE 1986 CENSUS OF CANADA

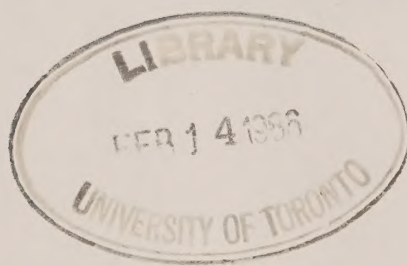
Preliminary Plans



(français au verso)

1986 Census Output Project
September 5, 1985

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INTRODUCTION

This note describes some product ideas for the 1986 Census of Canada. Users' views on these ideas will help to meet the challenge of planning a wide range of useful and relevant products and services.

1986 CENSUS CONTENT

The 1986 Census was designed in response to the demand for small area data on a range of issues, among them, labour markets, disability and visible minorities. These data needs are linked to the rapid socio-economic changes experienced in the '80's and to increasing attention to demographic concerns, such as mobility and population structure.

Although some adjustments were needed to respond to changing information priorities, a conscious effort was made to duplicate wherever possible the content of the 1981 Census. There are two major advantages in carrying over questions from the 1981 Census: it increases the potential for measuring change over time and allows a "minimum change" approach in the data collection and processing activities, thereby reducing development costs.

REASONS FOR CHANGING '86 OUTPUT

The "minimum change" philosophy adopted for the collection and processing of 1986 Census data cannot be used when it comes to output; the 1986 Census products and services will differ quite substantially from those developed for 1981. The main reasons for this departure are:

- the requirement to reduce expenditures;
- changing technology;
- conclusions drawn from the evaluation of 1981 Census products.

• REDUCTION OF EXPENDITURES

In keeping with the Government's commitment to reduce expenditures, Statistics Canada must offset the total cost of conducting the 1986 Censuses of Population and Agriculture, by realizing a saving of \$100 million over the next five years.

Approximately one-third of the savings will result from the implementation of a Federal Government Student/Youth Employment Program to hire students and youths for

approximately 25,000 of the 45,000 jobs created by the census. Another third will be realized through increased efficiency within Statistics Canada, including reductions in the census budget. The balance of the savings will result from increased emphasis on cost recovery of data dissemination activities, for both census and other statistical products and services.

In the case of the census, the goal is to recover the marginal cost of producing, marketing and distributing products, which amounts to about 8% of the total census budget.

CHANGING TECHNOLOGY

Technology is changing in ways that can fundamentally alter the kinds of products needed by data users. Output from the 1981 Census was available in publications, on microfiche and magnetic tape and could also be accessed on-line through CSDS (CANSIM Summary Database System). Some of the questions or uncertainties affecting 1986 output mode decisions are:

- . the viability of data diskettes/census products for micro-computers;
- . the extent to which the census data dissemination can be decentralized;
- . the extent to which users will be interested in on-line access.

The question of output mode requirements is made more complex by the need to plan now for products which will not become available until mid-1987 and later.

SALE AND DISTRIBUTION OF '81 PRODUCTS

Sales of 1981 Census products, their production costs and the extent of free distribution have all been "tracked" and studied, and have yielded some useful insights.

Very briefly, the 1981 Census products comprised:

- . 340 publications (mainly tables, but including also reference products to assist users with census content and geography and analytical products);
- . magnetic tapes, including 177 summary tapes containing tabulated data, 2 microdata tapes and specialized geographic files;
- . microfiche, duplicating the content of the publications and the summary tapes;
- . on-line access to summary tape content through CSDS;

- a custom tabulation service, providing tables to user specifications from the 1981, 1976 and 1971 Censuses on a cost-recovery basis.

The analysis of cost and revenue data for 1981 Census dissemination shows that, as of September 30, 1984:

- on average, 800 copies of each publication were distributed, consisting of 215 (27%) copies sold and 585 (73%) distributed at no cost to the recipient, the majority provided to libraries;
- for over 60% of the publications, fewer than 200 copies were sold;
- revenue from publication sales represented about one-third of the cost of printing and distributing the publications;
- among the 340 publications there were some very clear "best sellers" (basic demographic statistics, Census Subdivision Profiles and the Content Series - 12 short studies on popular topics);
- relatively few summary tapes sold more than 20 copies (the average was 5 copies), although many were provided at no cost to the recipient;
- the demand for custom tabulations was much higher than expected, with revenue for this service accounting for nearly 60% of all revenue generated from 1981 Census products.

USERS' VIEWS ON '81 OUTPUT

Information from data users has helped in the evaluation of 1981 Census products and services. The main messages on the merits and shortcomings of 1981 output are summarized below, under content, geography and output mode.

VIEWS ON CONTENT

Data users have indicated that:

- there is a relatively large market for area profile data, that is, a selection of statistics for a particular community, municipality, etc., covering a wide range of topics or variables, though not necessarily in much depth;
- the need for "target group" profile data, focused on the elderly, youth, working women, single parents, ethnic minorities, etc., is on the rise;
- rates, percentages, averages and indices add value to a profile - they enhance the basic numbers and facilitate data interpretation;

- the value of data is also enhanced by the addition of contextual information, such as measures of change over time or comparisons to a larger reference area;
- there is a need for easy-to-use reference products to support the data products;
- in general, 1981 Census output would have benefited from more reference material - more dissemination maps, more indexing and cross-referencing and a tabulation guide.

VIEWS ON GEOGRAPHY

The size of the 1981 Census output program was due in large measure to its very extensive geographic coverage. Numerous levels of geographic detail were included in planned output:

- Canada;
- province/territory;
- Census Division or CD (a county, regional district or other group of CSD's);
- Census Subdivision or CSD (corresponding to various official designations such as municipality, town, Indian Reserve);
- Enumeration Area or EA (the basic unit of about 600 population);
- Census Metropolitan Area or CMA (the labour market area of the 25 metropolitan areas with populations in excess of 100,000);
- Census Agglomeration or CA (the labour market area of 113 smaller urban areas);
- Census Tract or CT (a small census area of about 4,000 population in CMA's and large CA's);
- Provincial Census Tract or PCT (a small census area of about 5,000 population in areas not covered by CT's);
- Federal Electoral District or FED.

The feedback on geography indicated that:

- overall, CSD's were the most popular level of output but there is substantial interest in all levels;
- the preferred geographic level of output varies from province to province according to demographic and geopolitical factors;

- even within a province, different groups of data users - different levels of government, the private sector, special interest groups, academics - often have conflicting priorities in terms of geographic requirements;
- there is an increasing need for user-defined geographical areas;
- there is a need for a product focused on one geographical area - one CSD or one CMA, for example, or one non-standard area defined by the data user.

VIEWS ON OUTPUT MODE

A data user's preference for a particular output mode is a function of many things - available funds and equipment, regularity of use, the need to perform statistical manipulations and the volume of data one is using, to name a few of the factors.

Paper is inappropriate for voluminous census tables (for example, EA level output), but some users in these cases would opt for tape, others for microfiche.

There is much enthusiasm for products which could be used on microcomputers but the capacity limitation is a hindrance, as is the compatibility question.

There was only limited use of the on-line CSDS, although this may have been due in part to the complexity of the system.

'86 OUTPUT: PROPOSED APPROACH

After considering all of the above, a proposed approach for 1986 Census products and services was developed, differing from the 1981 version in four major ways:

- a significant reduction in the number of data publications;
- improvements in the custom tabulation service;
- the introduction of a new "semi-customized" product line;
- expansion and improvement of the reference products.

REDUCTION IN DATA PUBLICATIONS

Judging from the evaluation of 1981 products, the number of publications could be cut back significantly - perhaps by as much as 75%. The effect on users would be comparatively slight because many of the more detailed publications were not widely used. Moreover, such information could be better provided in other ways.

The 1986 publication program will build on the strengths and successes of 1981. It will concentrate on data with a sufficiently broad appeal to warrant their dissemination in publication form.

BASIC DATA PRODUCTS

These data publications or "basic products" would include:

- population and dwelling counts for all levels of geography;
- a "Canada and the Provinces" series, containing tables designed to illustrate the scope and analytical potential of census subject matter, but with no subprovincial data;
- CSD profile data, packaged on a provincial/territorial basis.

IMPROVED CUSTOM TABULATIONS

Custom tabulations offer the maximum possible flexibility to the data user, in terms of both content and geography. Moreover the user can specify output mode. The effort to improve the service for 1986 will be largely directed towards speeding up turnaround time. Some changes have already been implemented, such as streamlining the request procedures and creating "fast lane" service for smaller jobs. Another possibility, now under consideration, is to train users to code their own jobs or alternatively to specify their requests in a form which facilitates coding.

The introduction of semi-customized products, described below, will enable much faster delivery of the more popular small area tabulations.

SPECIAL PRODUCTS

In addition to custom tabulation requests, a number of very large, highly specialized tabulations can be anticipated. Rather than wait for the 1986 database to become available, efforts are underway to assess requirements for these products in advance. This will reduce the time needed to deliver these products and ease the bottleneck that very big jobs tend to create. Examples of "special products" include:

- a native peoples data set;
- an employment equity (equal employment opportunities) data set;
- public use sample tapes (microdata);
- detailed industry cross-classified with detailed occupation;

- historical databases;
- place-of-work data.

PLACE OF WORK

Place-of-work data are a "special product" in that they will be available only if coded and tabulated on a full cost-recovery basis. This is a specific cost reduction measure taken because coding costs for this variable are high and the number of users limited. Data users who are interested in place of work should make their needs known so that options can be explored. Because the coding operation is complex, requiring significant lead time to plan, user needs should be established by October 1985.

NEW SEMI- CUSTOMIZED PRODUCTS

The third major change for 1986 output would be the introduction of a new semi-customized product line. As the name suggests, these would fall part-way between "planned" publications and the totally flexible custom tabulation service. In essence, the data user would be offered tables where the content was predefined, but the geography and output mode would be user-defined. In other words, the user would choose from a selection of tables, specify the area or areas for which the table(s) are required and specify the output mode (paper, tape, fiche and perhaps diskette).

In addition to providing flexibility in terms of geography and output mode, semi-customized products represent one attempt to better focus output on user needs. In the past, while a wide range of detailed publications and summary tapes were readily available, users often had to search, sort and merge from many sources of data to assemble the information required. The idea behind semi-customized products is that much of this manipulation of data can be done for the user, prior to packaging the final product.

Because the content of semi-customized products would be defined in advance, it should focus on topics known to be of interest to many data users. It could also be packaged in different ways depending on user requirements. For example, it may in some cases be appropriate to display not only the actual counts or estimates, but to put them in some perspective by adding percentage distributions, indices or comparisons to the province or other meaningful reference area. Other tables might include historical census data.

Some of the key issues in developing semi-customized products are:

- defining the content of tables in a way which will meet the needs of the largest possible number of data users;
- determining the relative need for non-standard areas versus standard geostatistical areas, to design the most appropriate system for delivering semi-customized products;
- ensuring that users are aware of the availability of semi-customized products and know how to request them.

Unlike fully planned products, which are defined well in advance of the census, the semi-customized line has the capability of growing and evolving over time in response to new data needs. Keeping in touch with data users will be important in developing new product ideas and also in making known the availability of new products.

MORE/BETTER REFERENCE PRODUCTS

The final shift in orientation relates to reference products. The most popular 1981 product, the Dictionary, will not be changed much, but the catalogue will be substantially changed. This is in response not only to users' views but also to the changing nature of the product line. For example, in the case of semi-customized products, the catalogue could actually show "mock-ups" of available tables, which could be ordered simply by referencing the table number(s) and defining the geographical area(s) of interest. The catalogue would therefore provide a crystal clear idea of what the output would look like.

A User Guide series is also under consideration; this would comprise bulletins on a range of topics such as data quality (of a particular variable), data applications, random rounding and suppression.

Reference material to help data users better understand census geography will also be expanded.

A newsletter will be launched in the autumn of 1986 to inform users on census dissemination matters, starting with a review of the planned product line and services.

MAPS AND LISTS

Maps showing the limits of all census geostatistical areas are essential reference tools. A full series of small scale maps will be published showing CD's, CSD's, CMA's/CA's and their component CSD's and parts; wherever possible the relevant reference maps will also be included in data publications. In addition, the feasibility of making more detailed maps available on microfiche is under consideration.

EA Reference Lists, Place Name Reference Lists and other geographic reference material are also of major importance in making use of census data.

ANALYTICAL PRODUCTS

The 1981 Content Series consisted of twelve short studies on issues or population groups of widespread interest, including the elderly, schooling, native peoples, language, people living alone and changes in income.

The basic descriptive analysis in these studies was supported by charts and short tables. The series was very well received and a similar set of studies is proposed for 1986. Some of the topics might change, in response to new needs, and the series might be expanded to address a wider range of issues.

A possible way of increasing the value of the series to data users would be to support these studies by sets of semi-customized tables which could be requested for user-defined areas. This would allow users to replicate very efficiently the study based on the same variables but for the geographic area of interest to them.

PRODUCT PRICING

While the census cost recovery requirements will necessitate an increase in the prices of products and services, every effort will be made to plan, package and disseminate census data in an efficient and cost-effective manner.

Basic census data required by large numbers of users will continue to be available in published form. The publications may be purchased and will also be readily accessible through Canada's public library network and Statistics Canada's own regional reference centres.

On the other hand, data needs which are unique or shared by a small number of users will be met on demand, on a full cost-recovery basis.

In between basic products and fully-customized products, semi-customized output will offer a range of options, which allow the user to exercise some degree of control over the volume of data, the amount of tailoring to suit exact needs, and turnaround time. These are all important factors in determining production costs on which product prices will be based.

As products become more clearly defined, further information on prices of 1986 Census products will become available.

**'86 OUTPUT
SCHEDULE**

The above provides a general indication of the variety of products and services proposed for 1986 and their rationale. The development of these products will require many months and will follow the general path outlined below.

Sept-Nov '85

Consultations with data users on requirements for census products and services

Feb '86

Finalization of 1986 Census planned product line

Feb '86 onwards

Development of detailed specifications

June 3 '86

Census Day

Apr '87

Final population counts available

July - Dec '87

Progressive availability of data collected from all households (100% data)

Apr '88 - Mar '89

Progressive availability of data collected from sample households (20% data)

**DATA USERS'
VIEWS**

Data users are invited to make known their 1986 Census requirements as they relate to content, geographical detail and output mode. Comments are sought on the issues raised in this paper or on other census output matters. If you wish to comment or to obtain additional information on census output please address correspondence to (or contact):

Maryanne Webber
Census Operations Division
Statistics Canada
2nd floor, "D6"
Jean Talon Bldg.
Ottawa K1A 0T6

(613) 990-9530

or Advisory Services, in any of Statistics Canada's Regional Offices, as indicated on the following page.

ST. JOHN'S

Statistics Canada,
3rd Floor, Viking Building,
Crosbie Road,
St. John's, NFLD.
A1B 3P2
(709) 772-4064

WINNIPEG

Statistics Canada,
Room 500, General Post Office,
266 Graham Avenue,
Winnipeg, Manitoba
R3C 0K4
(204) 949-3257

HALIFAX

Statistics Canada,
Sir John Thompson Building,
1256 Barrington Street,
Halifax, N.S.
B3J 1Y6
(902) 426-5331

EDMONTON

Statistics Canada,
2nd Floor Hys Centre,
11010 - 101 Street,
Edmonton, Alberta
T5H 4C5
(403) 420-3028

MONTREAL

Statistics Canada,
Guy Favreau Complex,
200 Dorchester Blvd. West,
Suite 412,
Montreal, Quebec
H2Z 1X4
(514) 283-5742

VANCOUVER

Statistics Canada,
100-1145 Robson St.,
Vancouver, B.C.
V6E 3W8
(604) 666-3594

STURGEON FALLS

Statistics Canada,
Civic Administration Centre,
225 Holditch Street,
Sturgeon Falls, Ontario
P0H 2G0
(705) 753-4888

REGINA

Statistics Canada
530 Midtown Centre,
Regina, Sask.,
S4P 2B6
(306) 780-5405

TORONTO

Statistics Canada,
Arthur Meighen Building,
25 St. Claire Avenue, East,
Toronto, Ontario
M4T 1M4
(416) 973-6574

